

REMARKS/ARGUMENTS

Claims 33 through 35 are pending in the present application. Applicant's undersigned attorney proposes adding claims 36 through 46. Claims 33 and 34 stand objected to due to alleged informalities. Claims 33 through 35 stand rejected under 35 U.S.C. 102(e) as allegedly being anticipated by U.S. Patent 6,042,389 (Lemke et al.).

Applicant's undersigned attorney wishes to thank Examiner McCamey for conducting the interview on April 17, 2003 and for her continued consideration of the present application.

Formality Objections

Claims 33 and 34 stand objected to due to alleged informalities. Applicant's undersigned attorney respectfully submits that all informalities have been corrected in the amended claims. Withdrawal of the objections is respectfully requested.

Rejection under 35 U.S.C. § 102(e)

The Examiner previously rejected claims 33 through 35 under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent 6,042,389 (Lemke et al.). Applicant's undersigned attorney respectfully submits that amended claim 33 and newly added claim 40 patentably define over Lemke et al.

Claim 33 is directed to an electrical connector assembly for forming a connection between a substrate and a component, comprising:

a first connector half, said first connector half having first and second surfaces, said first surface having an array of reflowable elements thereon for electrical and mechanical connection to corresponding mating elements already on the

substrate, said second surface having a first array of connecting elements, said reflowable elements electrically connected to said first array of connecting elements; and
a second connector half, said second connector half having first and second surfaces, **said first surface having an array of mounting elements thereon for electrical and mechanical connection to the array of fusible elements on the component, said mounting elements substantially devoid of solder mass of a volume sufficient for reflowing said second connector half to the component**, said second surface having a second array of connecting elements adapted to intermate with said first array of connecting elements, said mounting elements electrically connected to said second array of connecting elements.

Thus, the claimed connector requires a first connector half with reflowable mating elements for connection to a substrate and a second connector half having **an array of mounting elements thereon for electrical and mechanical connection to the array of fusible elements on the component, wherein the mounting elements are substantially devoid of solder mass of a volume sufficient for reflowing said second connector half to the component**. Applicant's undersigned attorney respectfully submits that Lemke et al. do not teach or even suggest this claimed combination.

Similarly, claim 40 is directed to an electrical connector assembly for forming a connection between a substrate and a component, comprising:

a first connector half, said first connector half having first and second surfaces, said first surface having an array of reflowable elements thereon for electrical and mechanical connection to corresponding mating elements already on the substrate, said second surface having a first array of connecting elements, said reflowable elements electrically connected to said first array of connecting elements; and
a second connector half, said second connector half having first and second surfaces, **said first surface having an array of mounting tail contacts thereon for electrical and mechanical connection to the array of fusible elements on the component**, said second surface having a second array of

connecting elements adapted to intermate with said first array of connecting elements, said mounting tail contacts electrically connected to said second array of connecting elements.

Thus, the claimed connector requires a first connector half with reflowable mating elements for connection to a substrate and a second connector half having **an array of mounting tail contacts thereon for electrical and mechanical connection to the array of fusible elements on the component**. Applicant's undersigned attorney respectfully submits that Lemke et al. do not teach or even suggest this claimed combination.

Lemke et al. disclose a "low profile board to board connector system." (Abstract). The connector system comprises a plug connector 20 and a receptacle 52. (See Fig. 4). Plug connector 20 has solder balls 35 along its external side for connection to a circuit board. (See Figs. 4 and 5). Similarly, receptacle 52 has solder balls 74 along its external side for connection to a circuit board. (See Figs. 4 and 5). Thus, Lemke et al. teach a connector system wherein both connector halves have solder balls, i.e. reflowable mating elements, for mating with external components.

In contradistinction, the claims 33 through 39 require "array of mounting elements thereon for electrical and mechanical connection to the array of fusible elements on the component, **said mounting elements substantially devoid of solder mass of a volume sufficient for reflowing said second connector half to the component.**" Lemke et al. entirely fail to teach or suggest that one of its halves have mounting elements substantially devoid of solder mass for connection to reflowable mating elements already on a component. Indeed, by teaching that both connector halves themselves have reflowable mating elements, i.e. solder balls, Lemke et al. actually teach away from a connector comprising mounting

elements substantially devoid of solder mass for accommodating reflowable mating elements already on an electrical component.

Claims 40 through 46 require a second connector half having “**an array of mounting tail contacts** thereon for electrical and mechanical connection to the array of fusible elements on the component.” Lemke et al. entirely fail to teach connecting an array of mounting tail contacts to an array of fusible elements on the component. By teaching two connector halves having reflowable mating elements, i.e. solder balls, Lemke et al. actually teach away from a connector comprising an array of mounting tail contacts.

The Examiner suggests that the array of solder balls on the connector taught by Lemke et al. is capable of electrical connection to solder balls already on a component. (Office Action, p. 4). In truth, attempting to reflow solder balls of an electrical component to solder balls on a connector is impractical due to difficulties associate with aligning and maintaining alignment of opposing solder balls during attempted reflow. Furthermore, attempting to reflow solder balls of an electrical component to solder balls on a connector is likely to result in non-operational connections due to excess solder overflowing and forming connections with adjacent electrical connectors in the array. Indeed, because of these impracticalities, one skilled in the art would not be motivated by Lemke et al. to electrically connect solder balls on a connector with solder balls on an electrical component.

Therefore, because they do not teach a connector half having “an array of mounting elements thereon for electrical and mechanical connection to the array of fusible elements on the component, said mounting elements substantially devoid of solder mass of a volume sufficient for reflowing said second connector half to the component,” Lemke et al. cannot possibly anticipate claims 33 through 39. Similarly, because they do not teach a connector

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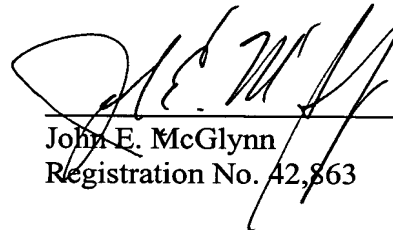
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half having "array of mounting tail contacts thereon for electrical and mechanical connection to the array of fusible elements on the component," Lemke et al. cannot possibly anticipate claims 40 through 46. Furthermore, none of the other cited references teach or suggest the claimed combination of elements. Accordingly, Applicant's undersigned attorney respectfully requests withdrawal of the rejections under 35 U.S.C. § 102(e).

CONCLUSION

Applicant respectfully submit that claims 33 through 46 patentably define over the prior art of record. Reconsideration of the present Office Action issued on February 14, 2003 and a Notice of Allowance are respectfully requested.

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